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The Future of Small Banks

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Report to the Banking Supervision and Regulation Division

Federal Reserve Bank of St. Louis

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This paper is a report to the Banking Supervision and Regulation Division on research that I conducted on the future of small banks while working in the Division as a Visiting Scholar. In this paper, small banks are identified as those with total assets less than $1 billion.[2] Small banks have an important role in financing economic activity in the U.S., through their loans to small businesses. [3] In addition, the Banking Supervision and Regulation Division of the St. Louis Fed has a vital interest in the future of small banks because most of the staff in this Division are involved in supervising small banks.

LITERATURE ON THE FUTURE OF SMALL BANKS

This section discusses only a few studies, for two reasons. *First*, DeYoung, Hunter and Udell (2004) provide a review of the literature that is relevant for the future of community banks. I would not add value by attempting another survey of the literature. *Second*, there is little controversy among those who have contributed to this literature. The consensus is that while there has been a sharp decline in the number of small banks since the 1980s, small banks will continue to be an important part of the financial services industry in the United States.

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[1] Rajeev Bhaskar and Jason Higbee provide research assistance for this report. I am responsible for any errors.

[2] I do not use the term "community bank" because I have not attempted to verify that the banks identified as small banks in this study provide their services primarily to households and small businesses in their communities. I have excluded credit card banks and bankers' banks from the analysis of bank profits.

[3] See DeYoung, Hunter and Udell (2004), Allen Berger (2004) and Avery and Samolyk (2004) for references to this literature.

Staff of the FDIC published a large study of the future of community banks in 2004: Critchfield, et al (2004). The authors of this FDIC study note that the number of community banks (assets less than $1 billion, inflation adjusted) fell by half between 1985 and 2003. This trend, however, does not indicate that the viability of small banks is threatened. The community banks that remain have been able to increase their assets and achieve "respectable" earnings. These authors emphasize a continuing entry into banking through de novo banks as a sign that investors have faith in community banking as a business model.

The staff of the Federal Reserve Bank of Kansas City published a large study of the future of community banks in 2003: Keeton, Harvey and Willis (2003). They came to conclusions similar to those in the FDIC study. While the smallest community banks have been struggling to survive, the larger community banks have been doing much better in terms of asset growth and profitability.

DeYoung, Hunter and Udell (2004) survey the literature that is relevant for the future of community banks and provide additional empirical evidence. They conclude that the community bank business model is economically viable, if community banks focus on the segments of the financial services industry where they have comparative advantage. These segments involve personalized service and lending based on information not available to other firms in the financial services industry, because the community banks derive the information through their relationships with their customers. DeYoung, Hunter and Udell (2004) conclude that asset size is important for the survival of community banks. The community banks with assets less than $100 million will have to be especially well run to survive in competition with much larger banks.

TRENDS IN THE NUMBER OF SMALL BANKS

The first step in this analysis involves examining trends during recent years in the number of small banks. Figure 1 presents the trends in the number of small banks in Eighth District states in four asset size categories. Since 1999 there has been a gradual decline in the number of banks in the two size groups with assets less than $100 million. In contrast, the number of banks with assets between $100 million and $300 million has remained approximately unchanged since 1999, and there has been a gradual rise in the number of banks with assets between $300 million and $1 billion.

Conversion of Bank Subsidiaries to Branches

These trends in Figure 1 reflect to some extent the actions of holding companies to convert their bank subsidiaries to branches. Trends in Figure 1 may be different in the future, therefore, if most banking organizations have finished converting their bank subsidiaries to branches.

Table 1 presents information that is relevant for estimating the number of bank charters that would be lost if each banking organization reduced the number of its bank subsidiaries to one, with all of its other bank subsidiaries converted to branches of that one bank. To illustrate the nature of the information in Table 1, note that 680 banks in District states had assets less than $50 million in 1999. Of these banks, 147 (680 minus 533) were subsidiaries of parent organizations with banking assets greater than $50 million. If each of the parent organizations of these 147 banks decided to convert all of its bank subsidiaries to branches of one of its banks, these 147 banks with assets below $50 million would probably be among those converted to branches.

The number of banks in District states with assets less than $50 million declined to 388 by 2005. Of these 388 banks, 73 (388 minus 315) were in organizations with total banking assets greater than $50 million. These 73 banks, therefore, are identified as vulnerable to loss of charter through conversion to branches within their parent organizations.

Table 2 compares the number of banks vulnerable to loss of charter through conversion to branches in 1999 and 2005. For banks in the three asset size groups up to $300 million, there were substantial reductions between 1999 and 2005 in the number of small banks in District states that were vulnerable to loss of charter through conversion to branches. These reductions reflect many conversions of bank subsidiaries to branches between 1999 and 2005. This pattern is reversed for banks with total assets between $300 million and $1 billion.

The information in Table 2 for 2005 provides an estimate of the number of small banks of various size that remain vulnerable to loss of charter through conversion to branches by their parent organizations. I am not aware of any studies published since the implementation of nationwide branch banking in 1997 that test hypotheses about the motivations of banking organizations to retain separate charters for banking offices in their organizations. Consequently, I do not have a basis for predicting which of the banks that were vulnerable to loss of charter in 2005 will actually be converted to branches in the near future.

Number of Small Banking Organizations

Trends in the number of small banking organizations in Figure 2 are not affected by the conversion of banks to branches within their parent organizations. To construct

Figure 2, the assets of each bank are allocated to its parent organization. If a bank is not a subsidiary of a holding company, the bank is its own parent organization. Trends in the number of banking organizations in of various asset size in Table 2 are not affected by the conversion of banks to branches within banking organizations.

The trends since 1999 in the number of small banking organizations in District states (Figure 2) are similar to those for the number of banks (Figure 1): the number of organizations with banking assets less than $100 million has declined, although not as sharply as the decline in the number of banks with assets less than $100 million. The number of organizations with assets between $100 million and $300 million remained essentially unchanged between 1999 and 2005, and there was an increase in the number of banking organizations with assets between $300 million and $1 billion. Figure 3 indicates similar trends for the nation. Continuation of the trends in Figures 2 and 3 implies a declining role of banks with assets less than $100 million in the financial services industry in the U.S.

IMPLICATIONS OF PROFIT RATES FOR THE FUTURE OF SMALL BANKS

Data on profitability in Table 3 provide additional perspective on the viability of small banks. Viability depends upon earning profits that meet industry standards. If banking organizations with total assets below a specific level do not meet the earnings standards of larger organizations, there will be a tendency for consolidation of the smaller institutions into the larger.

The data for Table 3 are from the Uniform Bank Performance Report (UBPR), which allocates each bank to a peer group each quarter. Each bank included in one of the

peer groups represented in Table 3 was in existence at least five years prior to the call report date. The banks in each asset size group are allocated to peer groups in the UBPR based on their location in urban or rural areas and the number of their banking offices. For banks that are sub-chapter S corporations (these bank pays no income tax; shareholders pay tax on bank income as their personal income), net income after taxes as a percentage of average total assets (ROA) is adjusted for the taxes that the sub-chapter S banks would have to pay if taxed like other banks.

Profit data in Table 3 indicate that for banks in each asset size range, median ROA depends on location (higher ROA for banks in rural areas) and number of offices (higher ROA for banks with fewer offices). Rural banks may face less competition than urban banks of similar size, and the banks with relatively few offices may be located in the less competitive market areas. In general, median ROA is relatively low for the banks with total assets less than $100 million. The exception to this conclusion involves the banks located in rural areas that had assets between $50 million and $100 million and no more than two offices. The data in Table 3 indicate why the number of small banking organizations with assets less than $100 million has been declining (Figures 1, 2 and 3): as a group these banks do not meet the earnings standards of larger banks.

CHARACTERISTICS OF THE BANKS THAT CONSISTENTLY EARN HIGH AND LOW PROFIT RATES

The only information on the profits of each group of banks in Table 3 is the median ROA. Other facets of the distribution of profits may provide additional insight into the future of small banks. There may be many banks in the various size groups with

assets less than $1 billion that consistently earn ROA that meets the industry standard for larger banks. In contrast, there may be other banks that consistently report ROA below a benchmark for low earnings. Such consistent low earning banks would tend to pull down the median ROA for each group of banks. This section identifies the consistent high and low earning banks and investigates the characteristics that tend to cause some banks to be consistent high earners and others to be consistent low earners.

The Literature

Before turning to the data, I examine the banking literature for guidance on identifying high and low earning banks and the characteristics of these banks that cause them to be high or low earners. I am aware of only one study that is relevant for this purpose: DeYoung, Hunter and Udell (2004). They identify "best practice" and "worst practice" community banks as those with ROE (net income after tax as a percentage of equity) above and below the median ROE for each of the groups of community banks in their study. All observations for this analysis were for the year 2001. The authors compare the mean values of several measures for the banks with ROE above the median to those with ROE below the median. The most important measures for distinguishing between these two groups of banks appear to be: (1) loans divided by assets, (2) non-interest income and (3) a measure of operating efficiency. Ratios of (4) core deposits to total assets and (5) small business loans to total loans do not seem to distinguish between the high and low earning banks.

This paper attempts to address the following limitations of the analysis in DeYoung, Hunter and Udell (2004) on best practice and worst practice banks. *First*, DeYoung, Hunter and Udell use data on the net income after tax that are not adjusted for

the fact that a large number of small banks are taxed as subchapter S corporations: these businesses pay no federal income tax. Instead, the shareholders pay tax on the income of a subchapter S corporation as part of their personal tax liability. The status of many community banks as subchapter S corporations creates measurement error in the analysis of DeYoung, Hunter and Udell: some banks are identified as "best practice" banks only because they do not pay income tax on their earnings. If their net income was adjusted for the income tax they would pay if they were not subchapter S corporations, they would be included among the worst practice banks. This paper, in contrast, uses data on net income adjusted for subchapter S status, derived from the Uniform Bank Performance Report. Table 4 presents information on the growth over time in the number of small banks in four asset size categories with tax status as subchapter S corporations. As of the fourth quarter of 2005, over 2100 of these small banks were subchapter S corporations.

Second, DeYoung, Hunter and Udell identify the best practice banks as those with ROE above the median for community banks of comparable size. Some of their "best practice" banks had profit rates that were below the average profit rates of the banks that are too large to be classified as community banks. This study, in contrast, uses a benchmark for identifying high earning banks that is based on the average profit ratios for banks with total assets in excess of $1 billion.

Third, DeYoung, Hunter and Udell use data on bank profits for only one year. In contrast, I attempt to deal with the volatility of bank income from year to year by identifying the consistent high earning banks as those that meet the standard for high earning banks several years in a row. In addition, the low earning banks report ROA below the standard for low earnings for several years in a row. The objective of these

specifications for high and low earnings banks is to eliminate noise that could result from using observations on earnings for only one year.

Fourth, their analysis of the characteristics that are different for best and worst practice banks does not include tests of statistical significance of differences in the means of these characteristics. In contrast, I test hypotheses that several ratios for high and low earning banks are statistically different from those measures for their peers in the UBPR.

Setting the Standards: the Benchmarks for High and Low Earnings and the Length of Time for Consistent Earnings

The number of banks identified as consistent high or low earners depends on the standards for high and low ROA and the number of years over which banks consistently report high or low ROA. I set the standard for high ROA at 1.25 percent, which is approximately the median ROA in Table 3 for the banks with assets in excess of $1 billion. The standard for low ROA is set at 0.75 percent. In addition, I restrict the potential high or low earning banks to those in parent organizations with total banking assets less than $1 billion as of the fourth quarter of 2005.

Table 5 presents information on the number of high and low earners for alternative specifications for the length of time over which banks consistently meet the benchmarks for high or low earnings. There is a tradeoff between the specified length of consistent earnings and the number of banks identified as consistent high or low earners: the longer the time period, the smaller the number of banks that meet the standards for consistent high and low earners. Table 5 indicates that increasing the horizon for consistently meeting the benchmarks for high or low ROA from three years to four or five years reduces the number of banks identified as high or low earners substantially.

This paper reports the results for the banks that were consistently high or low earners for the three years 2003-2005: 906 high earners and 747 low earners.

High and Low Earners: the Influence of Asset Size and Location in Urban or Rural Areas

Table 6 presents information on the asset size of the consistent high and low earners and location in urban and rural areas. While there are high and low earners in each cell, the high earners tend to be located among the banks with total assets greater than $100 million, and the consistent low earners tend to be concentrated among the smaller banks.

Table 7 presents the number of banks in each cell of Table 6 as a percentage of the total number of banks in that cell that could have been recorded among the relatively high or low earners. To illustrate, the 88 rural banks with assets up to $50 identified as consistent high earners (Table 6) were 13.2 percent of all of the banks in this category that could have possibly been identified as high earning banks (Table 7).

The proportion of banks that are high earners tends to be higher for the larger banks. This pattern holds for both the urban and rural banks. For banks in each of the asset size groups up to $300 million, the proportions of banks that are consistent high earners are higher for the rural banks than for the urban banks.

The consistent low earners tend to be concentrated among the banks with total assets less than $100 million. For banks in each asset size group, the proportions that are consistent low earners tend to be higher for the urban banks than for the rural banks.

Tables 6 and 7 expand our information about the distribution of bank profit rates beyond that derived from median ROA in Table 3. At least some of the small banks in each size category, located in both urban and rural areas, are able to operate as consistent

high earning banks. The high earning banks, however, tend to be concentrated among the small banks with assets in excess of $100 million. In addition, these tables support the conclusion derived from Table 3 that small rural banks tend to be more profitable than small urban banks of similar asset size.

Geographic Distribution of High and Low Earners

The implications of these data for the future of small banks in the Eighth District depend on the geographic distribution of the high and low earning banks within the nation. Tables 8, 9 and 10 examine the distribution of these banks among the twelve Federal Reserve Districts.

The consistent high earning banks (Table 8) and consistent low earning banks (Table 9) tend to be concentrated in Districts Six through Eleven. Each cell of Table 10 is designed to present a net position of each District with respect to high and low earners: number of consistent high earners minus the number of consistent low earners. The level of the number in any individual cell of Table 10 has little meaning in isolation from the results in other cells because the criteria for identifying high and low earners are arbitrary. It is the pattern of the numbers in Table 10 across asset size categories and across Districts that is relevant for an analysis of the factors affecting the ROA of small banks.

The numbers in Table 10 are negative for most of the cells involving banks with assets up to $50 million: that is, the number of consistent low earners is higher than the number of consistent high earners. The signs are more mixed in the cells for banks with assets between $50 million and $100 million. In contrast, most of the cells for banks with total assets above $100 million have positive signs (more high earners than low earners).

One way to assess the prospects for the survival small banks in the various districts is to examine the number of consistent high earners minus the number of consistent low earners in Table 10 for banks with assets between $100 million and $1 billion. These net positions are relatively high for the following districts: Richmond (33), Atlanta (49), Chicago (44), Minneapolis (60), Kansas City (43), Dallas (42) and San Francisco (43). This number for St. Louis (17) is in a lower range. An observation that stands out for the St. Louis District is the number of consistent low earning banks with assets above $100 million (32, second only to the Chicago District, with 39).

Comparing Consistent High Earners to their Peers

This section investigates the characteristics that distinguish the consistent high earning banks from their peers in the UBPR (Table 11). The first of five characteristics considered is the efficiency ratio, which is a measure of annual overhead expenses as percentage of net interest income plus non-interest income (a measure of revenue net of interest expense). There is an inverse relationship between efficiency and this ratio: the more efficient banks have lower values for this ratio. On average this measure of efficiency is about 11 percentage points lower for the consistent high earning banks than their peers, with a t-statistic of 33. Table 11 also indicates that the average yield on loans was significantly higher for the consistent high earning banks than for their peers, and the ratio of loans to assets was significantly higher for the high earning banks.

During recent years many community banks have increased their real estate loans substantially. The results in Table 11 do not support the hypothesis that the consistent high earning banks have high ratios of real estate loans to total assets than their peer banks.

One way that high earning banks may be able to sustain their relatively high ROA each year is through high ratios of core deposits to total assets, because interest rates are relatively low on core deposits. The results in Table 11, however, do not support this hypothesis.

The results in Table 11 imply the following prescription for small banks that want to earn relatively high ROA consistently: keep overhead costs low, keep the ratio of loans to assets relatively high, and make loans with relatively high yields. And do this without making a lot of loans that end up being charged off as losses.

Comparing Consistent Low Earning Banks to their Peers

The efficiency ratio is over 17 percentage points higher for the consistent low earning banks than their peers, with a t-statistic of almost 30 (Table 11). The consistent low earners have lower ratios of loans to assets than their peers on average, and higher ratios of core deposits to total deposits than their peers. Any advantages that these banks derive from relatively high core deposit ratios are more than offset by their relatively high operating costs, reflected in the efficiency ratio. The prescription for the consistent low earning banks is to reduce their operating costs and increase their ratios of loans to assets.

CONCLUSIONS

Data on the number of banks, their profits, and the distribution of consistent high and low earning banks tend to tell the same story about the future of small banks. The number of banks with assets less than $100 million has been declining in recent years, and median profit rates of these very small banks are lower than the profit rates of banks with assets between $100 million and $1 billion. While some of the banks with

consistent high earnings have total assets less than $100 million, there are many more consistent low earning banks in this size range than high earning banks.

The prospects are brighter for banks with assets between $100 million and $1 billion. The number of banks in this size range has increased in recent years, and profit rates for these banks tend to be higher than the profit rates of the smaller banks.

Some of the consistent high earning banks have assets below $100 million, including several in urban areas. The distribution of the consistent high earning banks indicates that it is possible for small banks in each size category, and in both urban and rural areas, to earn profit rates that consistently meet the industry standard for much larger banks. The most important characteristic that distinguishes the high earning banks from their peers is control of operating expenses. These observations indicate that the future of small banks depends on their ability to learn from the high earning banks and to adopt their strategies for success.

A final observation about the St. Louis District: it has a relatively large number of banks with assets between $100 million and $1 billion that are consistent low earners. I do not attempt to explain the reasons for these observations.

Table 1

Small Banks in Eighth District States in Parent Banking Organizations of Various Asset Size

(Dollar amounts in millions)

Panel A: 1999

Size of Parent Organization	Size of bank			
	Up to $50	$50 to $100	$100 to $300	$300 to $1,000
Up to $50	533	-	-	-
$50 M to $100	33	425	-	-
$100 M to $300	65	66	459	-
$300 to $1,000	39	43	71	125
$1,000 to $3,000	9	22	52	17
Over $3,000	1	10	43	26
Total number	680	566	625	168

Panel B: 2005

Size of Parent Organization	Size of bank			
Up to	$50 to $100	$100 to $300	$300 to $1,000	
Up to $50	315	-	-	-
$50 to $100	16	34	-	-
$100 to $300	34	24	5	15
$300 to $1,000	12	22	59	219
$1,000 to $3,000	7	12	39	29
Over $3,000	4	4	17	22
Total number	388	410	630	270

Table 2

Estimate of the Potential Number of Reductions in Bank Charters from Conversion of Bank Subsidiaries to Branches for District States

Bank size	1999	2005
Up to $50 M	147	73
$50 M to $100 M	141	62
$100 M to $300 M	166	115
$300 M to $1 B	43	51

Table 3

Median Net Income after Tax as Percentage of Total Assets

Assets (millions of dollars)	Urban or Rural	Number of offices	Q4, 2004	Q4, 2005	Q2, 2006
Over $3,000	NA	NA	1.30%	1.29%	1.30
$1,000 to $3,000	NA	NA	1.23	1.31	1.27
$300 to $1,000	NA	NA	1.17	1.21	1.22
$100 to $300	Urban	3 or more	1.02	1.07	1.08
$100 to $300	Rural	3 or more	1.17	1.18	1.17
$100 to $300	Urban	2 or less	1.11	1.26	1.27
$100 to $300	Rural	2 or less	1.29	1.29	1.31
$50 to $100	Urban	3 or more	0.84	0.94	0.92
$50 to $100	Rural	3 or more	1.06	1.03	1.04
$50 to $100	Urban	2 or less	0.90	1.03	1.01
$50 to $100	Rural	2 or less	1.17	1.22	1.24
Up to $50	Urban	2 or more	0.72	0.70	0.75
Up to $50	Rural	2 or more	0.94	0.94	1.00
Up to $50	Urban	1	0.84	0.94	1.07
Up to $50	Rural	1	1.07	1.07	1.15

Table 4
Number of Small Banks that have Tax Status as Subchapter S Corporations

	Total assets (in millions of dollars)			
Date (fourth quarter of each year)	Up to $50	$50 to $100	$100 to $300	$300 to $1,000
1997	304	171	89	7
1998	497	307	188	16
1999	567	395	258	26
2000	597	448	320	41
2001	636	506	392	66
2002	637	558	474	89
2003	647	588	555	115
2004	626	620	619	143
2005	630	631	665	178

Table 5
Number of Banks Classified as High and Low Earners

Years over which the banks met the performance criteria	High earners	Low earners
2003- 2005 (three consecutive years)	906	747
2002-2005 (four consecutive years)	797	528
2001-2005 (five consecutive years)	644	419

Table 6: Consistent High Earners for the years 2003-2005

A) High Earning Banks (906)

Asset Group	RURAL	URBAN	Total
Up to $50 million	88	64	152
$50-$100 million	109	102	211
$100-$300 million	123	237	360
$300-$1000 million	23	160	183
Total	343	563	906

B) Low Earning Banks (747)

Asset Group	RURAL	URBAN	Total
Up to $50 million	154	190	344
$50-$100 million	74	127	201
$100-$300 million	34	128	162
$300-$1000 million	3	37	40
Total	265	482	747

Table 7: Percentage of Banks that were Consistent High and Low Earning Banks for the years 2003-2005

Percentage that were high earning banks

Asset Group	RURAL	URBAN	Total
Up to $50 million	13.2%	9.4%	10.9%
$50-$100 million	17.4	13.2	15.1
$100-$300 million	22.5	18.1	19.4
$300-$1000 million	22.8	23.8	23.7
Total	17.2	16.4	16.7

Percentage that were low earning banks

Asset Group	RURAL	URBAN	Total
Up to $50 million	21.5%	27.8%	24.6%
$50-$100 million	11.8	16.2	14.3
$100-$300 million	6.2	9.9	8.8
$300-$1000 million	3.0	5.4	5.1
Total	13.3	14.0	13.7

Table 8: Consistent High Earning Banks by Federal Reserve District for the Years from the 2003-2005

Boston			
Asset Group	RURAL	URBAN	Total
Up to $50 million	0	0	0
$50-$100 million	0	0	0
$100-$300 million	0	2	2
$300-$1000 million	2	2	4
Total	2	4	6

New York			
Asset Group	RURAL	URBAN	Total
Up to $50 million	0	0	0
$50-$100 million	0	1	1
$100-$300 million	1	3	4
$300-$1000 million	1	8	9
Total	2	12	14

Philadelphia			
Asset Group	RURAL	URBAN	Total
Up to $50 million	0	1	1
$50-$100 million	0	1	1
$100-$300 million	0	6	6
$300-$1000 million	2	10	12
Total	2	18	20

Cleveland			
Asset Group	RURAL	URBAN	Total
Up to $50 million	1	7	8
$50-$100 million	5	2	7
$100-$300 million	4	13	17
$300-$1000 million	0	0	0
Total	10	22	32

Richmond			
Asset Group	RURAL	URBAN	Total
Up to $50 million	0	0	0
$50-$100 million	1	0	1
$100-$300 million	12	14	26
$300-$1000 million	3	14	17
Total	16	28	44

Atlanta			
Asset Group	RURAL	URBAN	Total
Up to $50 million	3	0	3
$50-$100 million	12	19	31
$100-$300 million	15	32	47
$300-$1000 million	5	24	29
Total	35	75	110

Chicago			
Asset Group	RURAL	URBAN	Total
Up to $50 million	17	18	35
$50-$100 million	19	16	35
$100-$300 million	18	44	62
$300-$1000 million	2	19	21
Total	56	97	153

St. Louis			
Asset Group	RURAL	URBAN	Total
Up to $50 million	2	5	7
$50-$100 million	18	6	22
$100-$300 million	17	19	36
$300-$1000 million	3	10	13
Total	38	40	78

Minneapolis			
Asset Group	RURAL	URBAN	Total
Up to $50 million	24	12	36
$50-$100 million	25	15	40
$100-$300 million	23	27	50
$300-$1000 million	1	16	17
Total	73	70	143

Kansas City			
Asset Group	RURAL	URBAN	Total
Up to $50 million	31	15	46
$50-$100 million	21	24	45
$100-$300 million	18	32	50
$300-$1000 million	1	13	14
Total	71	84	155

Dallas			
Asset Group	RURAL	URBAN	Total
Up to $50 million	9	6	15
$50-$100 million	9	14	23
$100-$300 million	15	31	46
$300-$1000 million	3	8	11
Total	36	59	95

San Francisco			
Asset Group	RURAL	URBAN	Total
Up to $50 million	1	0	1
$50-$100 million	1	4	5
$100-$300 million	1	14	15
$300-$1000 million	0	36	36
Total	3	54	57

Table 9: Consistent Low Earning Banks by Federal Reserve District, 2003-2005

Boston			
Asset Group	RURAL	URBAN	Total
Up to $50 million	0	0	0
$50-$100 million	0	5	5
$100-$300 million	1	1	2
$300-$1000 million	0	2	2
Total	1	8	9

New York			
Asset Group	RURAL	URBAN	Total
Up to $50 million	0	1	1
$50-$100 million	1	6	7
$100-$300 million	2	10	12
$300-$1000 million	0	6	6
Total	3	23	26

Philadelphia			
Asset Group	RURAL	URBAN	Total
Up to $50 million	0	0	0
$50-$100 million	0	2	2
$100-$300 million	1	6	7
$300-$1000 million	0	3	3
Total	1	11	12

Cleveland			
Asset Group	RURAL	URBAN	Total
Up to $50 million	0	11	11
$50-$100 million	4	6	10
$100-$300 million	1	7	8
$300-$1000 million	1	3	4
Total	6	27	33

Richmond			
Asset Group	RURAL	URBAN	Total
Up to $50 million	3	5	8
$50-$100 million	3	4	7
$100-$300 million	3	3	6
$300-$1000 million	0	4	4
Total	9	18	25

Atlanta			
Asset Group	RURAL	URBAN	Total
Up to $50 million	5	6	11
$50-$100 million	8	19	27
$100-$300 million	3	15	18
$300-$1000 million	1	8	9
Total	17	48	65

Chicago			
Asset Group	RURAL	URBAN	Total
Up to $50 million	16	37	53
$50-$100 million	10	24	34
$100-$300 million	6	29	35
$300-$1000 million	0	4	4
Total	32	94	126

St. Louis			
Asset Group	RURAL	URBAN	Total
Up to $50 million	22	18	38
$50-$100 million	11	13	24
$100-$300 million	9	20	29
$300-$1000 million	0	3	3
Total	42	52	94

Minneapolis			
Asset Group	RURAL	URBAN	Total
Up to $50 million	31	30	61
$50-$100 million	8	7	15
$100-$300 million	2	5	7
$300-$1000 million	0	0	0
Total	41	42	83

Kansas City			
Asset Group	RURAL	URBAN	Total
Up to $50 million	56	59	115
$50-$100 million	17	21	38
$100-$300 million	3	15	18
$300-$1000 million	0	3	3
Total	76	98	174

Dallas			
Asset Group	RURAL	URBAN	Total
Up to $50 million	20	22	42
$50-$100 million	12	16	28
$100-$300 million	3	11	14
$300-$1000 million	1	0	1
Total	36	49	85

San Francisco			
Asset Group	RURAL	URBAN	Total
Up to $50 million	1	3	4
$50-$100 million	1	4	5
$100-$300 million	0	6	6
$300-$1000 million	0	1	1
Total	2	14	16

Table 10 Number of High Earning Banks Minus the Number of Low Earning Banks

District		Asset size of banks (millions of dollars) Up to $50	$50 to $100	$100 to $300	$300 to $1,000
Boston					
	Rural	0	0	-1	2
	Urban	0	-5	1	0
New York					
	Rural	0	-1	-1	1
	Urban	-1	-5	-7	2
Philadelphia					
	Rural	0	0	-1	2
	Urban	1	-1	0	7
Cleveland					
	Rural	1	1	3	-1
	Urban	-4	-4	-8	-3
Richmond					
	Rural	-3	-2	9	3
	Urban	-5	-4	11	10
Atlanta					
	Rural	-2	4	12	4
	Urban	-6	0	17	16
Chicago					
	Rural	1	9	12	2
	Urban	-19	-8	15	15
St. Louis					
	Rural	-20	7	8	3
	Urban	-13	-7	-1	7
Minneapolis					
	Rural	-7	17	21	1
	Urban	-18	8	22	16
Kansas City					
	Rural	-25	4	15	1
	Urban	-44	3	17	10
Dallas					
	Rural	-11	-3	12	2
	Urban	-16	-2	20	8

San Francisco					
	Rural	0	0	1	0
	Urban	-3	0	8	35

Table 11
Comparison of the Characteristics of the High and Low Earning Banks to their Peers in the Uniform Bank Performance Report

Ratio	High Earning Banks	Low Earning Banks
	Mean (t-statistic)	Mean (t-statistic)
Efficiency ratio	-11.225 (33.108)	17.407 (29.897)
Loan yield	0.371 (7.734)	0.427 (0.842)
Loans to assets	4.146 (6.880)	-2.254 (3.366)
Real estate loans to assets	-0.451 (0.851)	-0.709 (1.114)
Core deposits to assets	-0.405 (1.118)	1.776 (5.115)

Notes: The 906 consistent high earning banks had ROA of 1.25 percent or higher during the years 2003-2005. The 747 consistent low earning banks had ROA of less than 0.75 percent each year for the years 2003-2005.

The ratios are defined as follows:

Efficiency ratio: annual overhead expenses as percentage of net interest income plus non-interest income (a measure of revenue net of interest expense).

Loan yield: total revenue from interest on loans as a percentage of average total loans.

Loans to assets: loans not held for sale as a percent of total assets.

Real estate loans to total assets: calculated as a percentage.

Core deposits to total assets: core deposits include all demand and savings deposits (including money market deposits) plus time deposits in denominations $100,000 or less. Core deposits calculated as a percentage of total assets.

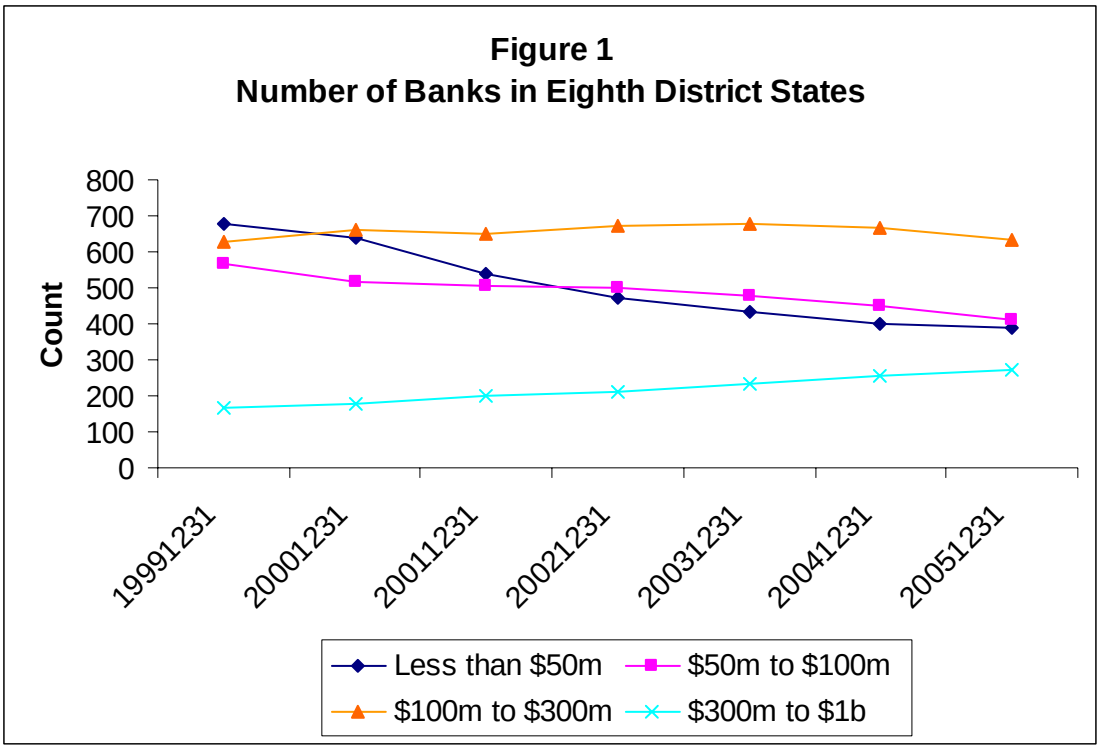


Figure 1
Number of Banks in Eighth District States
Count
800
700
600
500
400
300
200
100
0
19991231
20001231
20011231
20021231
20031231
20041231
20051231
Less than $50m
$50m to $100m
$100m to $300m
$300m to $1b

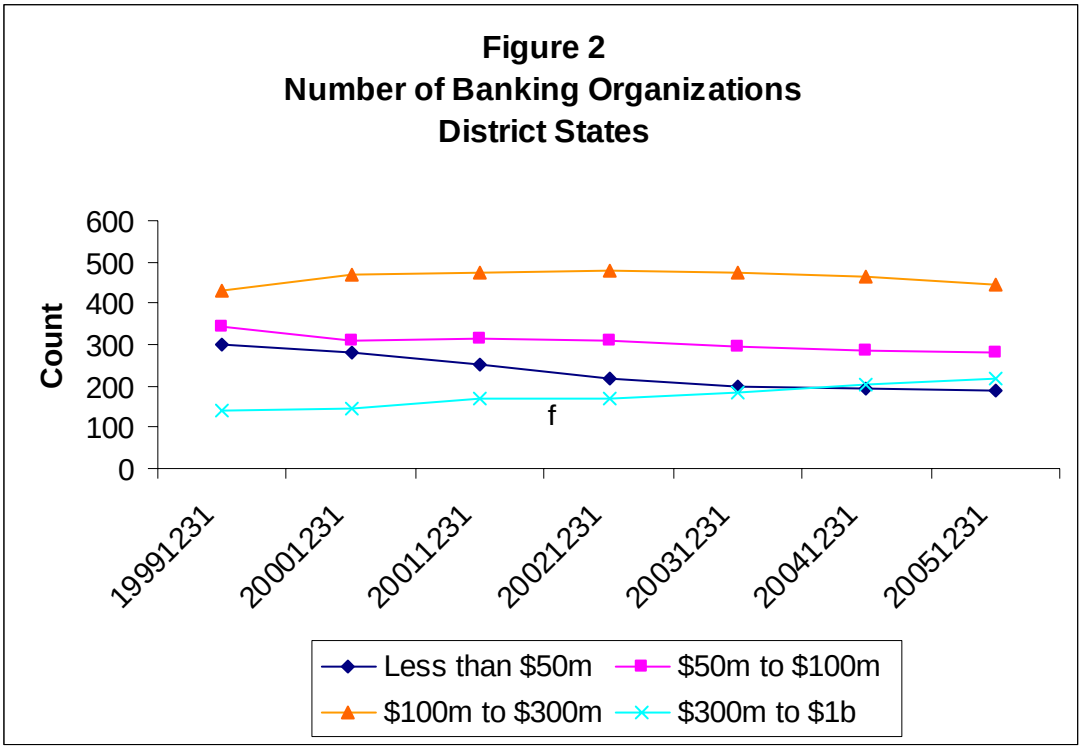
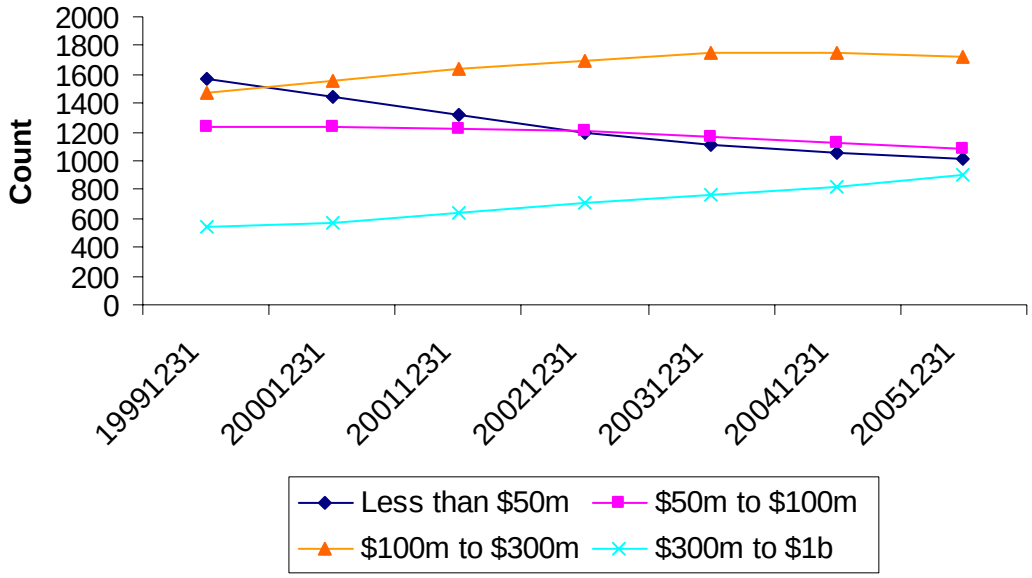


Figure 2
Number of Banking Organizations
District States
Count
600
500
400
300
200
100
0
f
19991231
20001231
20011231
20021231
20031231
20041231
20051231
Less than $50m
$50m to $100m
$100m to $300m
$300m to $1b

Figure 3
Number of Banking Organizations in the U.S.



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